

**SYNCHRONIZING CONTINUOUS SIGNALS AND DISCRETE EVENTS FOR
AN IMPLANTABLE MEDICAL DEVICE**

ABSTRACT

A system comprises an implantable medical device (IMD). The IMD includes at least one electrical input to receive sensed electrical activity of a heart and a sampler circuit coupled to the at least one electrical input. The sampler circuit generates sampled values of the sensed electrical activity. The IMD includes a clock circuit that generates readable values representative of absolute time. The IMD also includes a controller circuit coupled to the sampler circuit and the clock circuit. The controller circuit processes the sampled values and generate at least one marker to indicate a detected event related to the electrical activity. The controller circuit also stores a timestamp of absolute time of the detected event with the at least one marker in memory.

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